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ABSTRACT

Faculty members are often overwhelmed with the prospect of implementing Web-based instruction. In an effort to simplify the process and incorporate some basic instructional design elements, the Educational Technology Team at Embry Riddle Aeronautical University created a course template for WebCT. Utilizing rapid prototyping, the template incorporates a standardized user interface tested by students and faculty, institutional branding, structured organization, page starter templates, and online support materials. Faculty development in the use of Web-based instruction is always a challenge. That challenge is multiplied exponentially when those faculty members are widely disbursed geographically. Embry Riddle Aeronautical University is unique note only in its aviation emphasis, but also in its worldwide educational presence. This paper discusses the implementation of a course template to help simplify the Web development process for faculty and the corresponding training issues for the Educational Technology Team. The paper concludes that overall, the experience of working with faculty to improve their use of technology in the classroom has been positive. Within one year, the entire department has established a Web presence and nearly half have moved onto the more advanced usage of technology over the Internet. (Author/AEF)

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M. Simonson

Simplify Web Development for Faculty and Promote Instructional Design

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University Profile

Founded only 22 years after the historic flight at Kitty Hawk, Embry-Riddle Aeronautical University has achieved recognition as a world leader in aviation. Each year thousands of graduates take their place in the aviation/aerospace industry as pilots, aviation managers, aerospace engineers, and other aviation professionals.

ERAU is unique not only as a pioneer in aviation, but also as a pioneer in distance education. The University has three campuses: two traditional residential campuses in Daytona Beach, FL and Prescott, AZ and an Extended Campus that is literally worldwide. The Extended Campus offers traditional courses in 120 education centers located around the world and independent study courses to students worldwide.

Instructional Technology Implementation

Because of its importance to aviation, ERAU has placed a high priority on technology implementation. For that reason, faculty members are highly motivated to make use of the web in their classes. Faculty at the residential campuses and Extended Campus education centers use the web to enhance their traditional classes. As such they need to learn how to use the web for everything from posting syllabi to electronic discussions and online testing. The independent studies courses also make use of the web to supplement and replace the traditional paper study guides and videotapes.

The Challenge

Providing faculty with the instructional technology training and support they need to utilize the web in their courses is always a challenge. At ERAU that challenge is multiplied a hundred times plus because of the 125 Extended Campus centers and the two residential campuses. The task of training 3500 faculty members is challenging enough, but when they are disbursed geographically over 127 sites the challenge becomes monumental.

Course Template

To help meet that challenge, the Educational Technology Team at the university implemented a course template for WebCT. The rationale for the template stemmed from the nearly universal reaction by faculty of being overwhelmed by the web course development process and the general failure to

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incorporate instructional design into the development process. It was thought that a course template would simplify the development process by providing a standardized user interface, a structured organization, and page starter templates. In addition, good instructional design could be incorporated and encouraged.

The Template Development Process

Because of limited time and resources, a rapid prototyping approach was utilized. Existing courses were reviewed to determine what web components were being used and how they were being used. Students were surveyed regarding the usefulness of web components in their courses. From that data, faculty members who use the web were presented with several alternative web course organizational structures. They were asked for input regarding the organization and the comprehensiveness of the elements that were included. Students were then presented with several alternative user interfaces and input was collected. From the faculty and student input the alternatives were narrowed and reviewed again. A final version was determined and field-tested.

Template Components

The user interface involved the "look and feel" of the template, the elements available in the template, and the organization and structure of those elements. An important aspect of the "look and feel" was to incorporate institutional branding through the use of appropriate graphic elements. The template includes all the elements available in WebCT even though most faculty members do not use all of them. However, while all the elements are included, they are hidden from students initially requiring faculty to make a conscious decision to make them available to students. The organizational structure was developed to provide logical, efficient access to the various components.

To help jump start the development process; page templates were created for standard items such as the syllabus. The page templates are HTML files that contain a page structure with general information that can be edited by faculty members. Instructions are provided for downloading the pages, editing them, and uploading them. The inclusion of the page templates also made it possible to establish links from the course template to the HTML files for the various elements eliminating the need for faculty to create them.

Various instructional design elements were also incorporated into the template. The user interface incorporated graphic, layout, and organizational principles. The page templates incorporated page and message design principles. The primary encouragement towards instructional design elements was in the learning activity modules. Each module contained a preformatted page template for introduction, activities, conclusion, and suggestions pages. Links were provided in those pages to a site with additional information explaining the instructional design techniques that should be considered.

The template also includes a guide for faculty members on what is in the template and how to use it. In addition, there is an online, facilitated course that takes the participants through the complete course development process step-by-step. At key points, they are asked to submit portions of their work for review and feedback.

Implementation

All new WebCT courses are created using the template. Faculty members are not required to use the template. They can modify it or eliminate it and create their own. However, the template provides a starting point, especially for new faculty members.

Conclusion

A well-designed course template can simplify the development process for faculty members. It helps them focus on the instructional elements by not requiring them to make decisions about user interface and organization. It also provides them with a starting point for developing their content. The course template has helped the ERAU Ed Tech Team meet the challenge of helping faculty utilize the web for instruction.